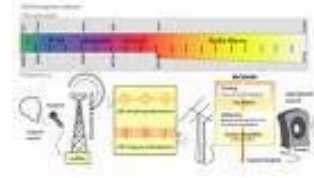




STORM SIGNALS DATA COLLECTION



From Observatories:

University of Florida:

The best time to observe is between 10:00 am and 2:00pm ET. Florida also has intense electrical storms during the summer. To protect their equipment, the site is closed from June to late September. We can use the data from the radio JOVE student program to detect the radio wave from the Sun. Click on "University of Florida" and you will see a page that looks like this.

Welcome to "The Internet Jupiter/Solar Radio Observatory"!! [\[Web Page in Japanese\]](#)
 University of Florida Radio Observatory (UFRO) is located at [Longitude: 83deg.2min Latitude: 29deg.32min].

USERNAME
 PASSWORD

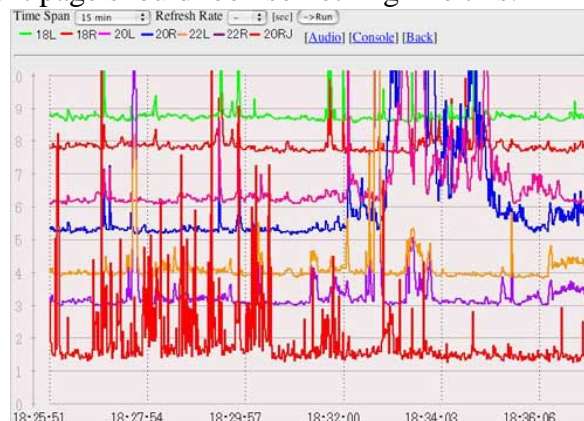
Please click "Run".

On the next web page, select "Refresh Rate (10sec)" and "Run". Enjoy!

[Schedule of Jupiter's Radio Observation](#) / [Prediction Tables](#) / [Ephemeris](#)

[Operation Memo](#) / [Archived Data](#) **NEW** / [CG Animations](#) / [Latest JOVE Bulletin](#)

Click Run. The next page should look something like this:



This plot looks pretty complicated because it shows the radio signal from several antennas at once. Each antenna is recording a different radio frequency. It is rather like listening to a radio that is bringing in several stations at once.

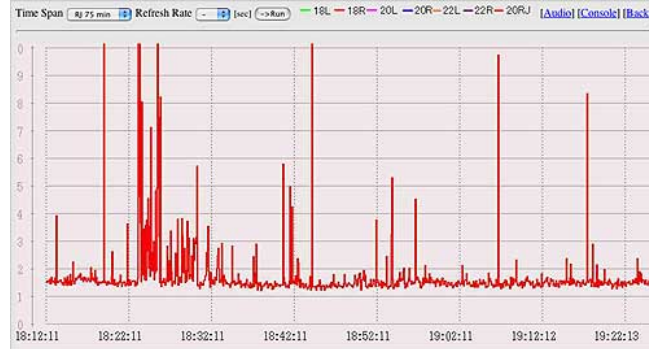
We only want to look at one of these frequencies, so you will enter the following information:

Time span : RJ 15 (for “Radio Jove” and 15 for how many minutes it will be displayed)

Refresh Rate: 10 (seconds)

Then click “Run”

Now you should only see a red line on this graph. It might look like this:



The sharp spikes in the above graph are usually due to man-made signals or lightening strikes. The number of spikes and the weather forecast for Florida on the day this graph was made is consistent with lightening. A solar storm would show a gradual rise and fall in the signal over several seconds to several minutes. The graph would look somewhat like a shark fin.

What does the line look like on the graph you are looking at?

Draw an example of what your line looks like in the box below.

Do you think you are observing a solar storm using this data? Why or why not?

From Satellites:

GOES 5 min. data plot

Although GOES 12 is x-ray data it does provide a good second indicator that a solar storm is likely coming toward Earth. The GOES satellites provide information about the strength of x-ray emissions from the Sun. It is important to verify the radio wave transmission by using the GOES satellite of x-ray emissions. The Sun is constantly producing x-rays, so you are looking for significant increases in the intensity of x-ray above a background.

Scientists measure these emissions using a simple rating system for this solar x-ray activity. They have created five levels; A, B, C, M, and X.

Using the solar x-ray activity scale along the right side (A,B,C,M, and X), determine if there have been any solar flares over the last few days. You will only look at the red line that shows the data collected by the GOES 12 satellite.

Have there been any solar flares detected over the last few days? _____
If yes, when were these flare detected? How strong were they?

***Based on the data you have analyzed from these instruments, answer this question.
Has any data been recorded today that indicates that a solar storm might be heading
toward Earth? Be sure to cite specific data in your response.***
